



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

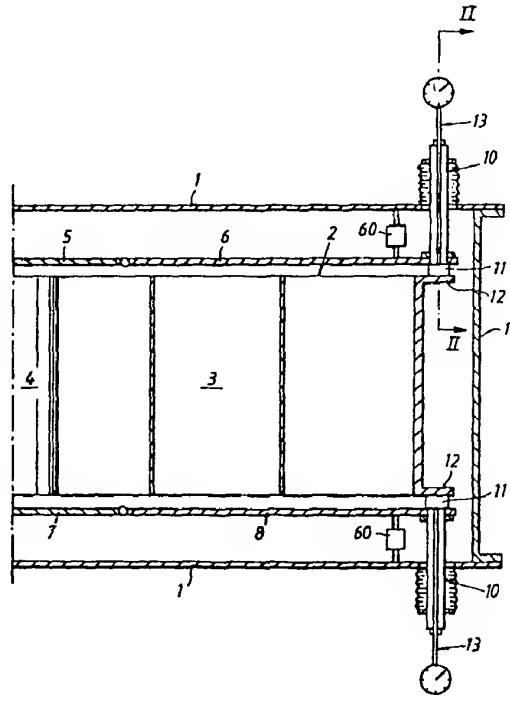
| | | |
|---|----|---|
| (51) International Patent Classification 5 : F28D 19/04 | A1 | (11) International Publication Number: WO 95/00809 |
| | | (43) International Publication Date: 5 January 1995 (05.01.95) |

| | |
|---|---|
| (21) International Application Number: PCT/SE94/00501 | (81) Designated States: JP, PL, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). |
| (22) International Filing Date: 27 May 1994 (27.05.94) | |
| (30) Priority Data: 9302148-3 21 June 1993 (21.06.93) SE | Published <i>With international search report.</i> |
| (71) Applicant (for all designated States except US): SVENSKA ROTOR MASKINER AB [SE/SE]; P.O. Box 15085, S-104 65 Stockholm (SE). | |
| (72) Inventor; and (75) Inventor/Applicant (for US only): KARLSSON, Kurt [SE/SE]; Njupkärrsvägen 5, S-135 55 Tyresö (SE). | |
| (74) Agents: KARLSSON, Leif et al.; P.O. Box 15085, S-104 65 Stockholm (SE). | |

(54) Title: REGENERATIVE HEAT EXCHANGER

(57) Abstract

The invention relates to a rotating regenerative heat exchanger with one part (2) being substantially cylindrical and containing a regenerative mass (3) and a second part having a casing with inlets and outlets for the heat exchanging media, which are separated by movable plates (6, 8). The plates are kept with a small clearance closed to the cylindrical part (2) by means of supports (11) having an adjustable sliding shoe made of carbon or graphite, which slide on an edge flange (12) at the upper and lower periphery of the cylindrical part (2). The clearance is controlled by a measuring rod adjacent to each support (11), which rod momentary can be brought into contact with the related edge flange (12).



Claims:

1. Regenerative heat exchanger comprising two parts, of which one is rotatable relatively to the other around a common axis, the one part (2) being substantially cylindrical and contains a regenerative mass (3), whereas the second part (1) contains media ducts with axially directed inlets and outlets for the heat emitting and heat absorbing media, which inlets and outlets are separated by plates (5, 6, 7, 8; 70), for sealing purpose located closed to the cylindrical part and being connected to the second part (1), said plates including movable plates (6, 8; 70), at least some of said movable plates (6, 8; 70) being provided with supports (11; 11') for controlling a clearance between the movable plates (6, 8; 70) and an edge flange (12; 71) or the like at each end of the cylindrical part, which supports (11; 11') each includes a sliding shoe (25) which contacts the related edge flange (12; 71) with a certain pressure, characterized in that each said sliding shoe (25) is made of carbon or graphite and is adjustable in a direction perpendicular to the contact surface and that adjacent to each sliding shoe (25) there is provided a measuring rod (43; 43') in parallel to the adjustment direction of the related sliding shoe (25), which measuring rod (43; 43') from a resting position momentary can be brought into contact with the edge flange (25, 71) which co-operates with the adjacent siding shoe (25) and being arranged to indicate when the size of the clearance between the movable plate (6, 8; 70) and the edge flange (12; 71) requires advancement a distance towards the edge flange (12; 71) of the sliding shoe (25) relatively to the plate (6, 8; 70).
2. Regenerative heat exchanger according to claim 1, wherein said movable plates include sector shaped plates (6, 8) located closed to the end surfaces of the cylindrical part, the sector plates (6, 8) being pivotally connected to axially fixed centre plates (5, 7), which centre plates are provided at the ends of the cylindrical part and being connected to the second part, the plates (5, 6) at one end of the cylindrical part being axially aligned with the plates (7, 8) at the other end, and each of said sector plates (6, 8) having two of said supports (11), which supports are peripherally distributed at the radially outer ends of each sector plate (6, 8), said supports (11) and said measuring rods (43) being axially directed.

3. Regenerative heat exchanger according to claim 1, wherein said movable plates include plates (70) which are located closed to the cylindrical surface of the cylindrical part and having a substantially vaulted rectangular shape corresponding to said cylindrical surface and being 5 radially movable, and each of said vaulted plates (70) having a plurality of said supports (11'), said supports (11') and said measuring rods (43') being radially directed.

4. Regenerative heat exchanger according to claim 2, wherein a dampening device (60) is provided between the second part and a spot at each sector plate (6, 8) between the two sliding shoes (25) so that eventual movements of the sector plate (6, 8) away from the 10 corresponding edge flange (12) are damped.